REMARKS/ARGUMENTS

Claims 1, 3-11 and 13 are active.

Claims 1 and 13 are amended to incorporate Claim 14 and is supported by the disclosure at page 25, line 23

No new matter is added.

Applicants thank the Examiner for discussing this case with their undersigned representative on August 31, 2010. During this discussion, the rejection of Claims 1-3 and 5-13 under 35 USC 103(a) in view of the combination of Pauls (US 6,274,381) and Oppenlander (US 6,533,830) was addressed. Further, the comparative data presented in the application was discussed particularly pertaining to the Examiner's view (in the Action) as to the scope of the data and the scope of the claims. As noted in the Interview Summary record of this meeting, the Examiner suggested including a minimum amount of the anthraquinone in the concentrate to show the superior results. This suggestion is appreciated and adopted in the claim amendments submitted in this paper.

Regarding the data, Table 1 of the present application presents a typical composition of a fuel and lubricant additive concentrate. The two main representative components of such a concentrate are detergent (Polyisobutenamine (PIBA)) and carrier oil (Fatty alcohol propoxylate).

The stability of several anthraquinone markers is the tested against the two major components of the concentrate and compared to the stability of a non-anthraquinone marker (phthalocyanine based).

It is clear from the results of Table 2 that the markers of the invention are stable against the detergent, while the comparative marker is not. The same holds true for stability with respect to the carrier oil shown in Table 3. The relative concentration of detergents and

carrier oils with respect to the markers correspond to typical concentration conditions in the packages or contain even an increased amount of the detergent or carrier oil, which means that the markers have an additional stability safety margin as shown under these harsh conditions.

The storage stability of compounds 10 to 12 compared to detergent and the fuel and lubricant additive concentrate of Table 1 is then further described in detail. This data shows that the anthraquinone markers are stable against the detergent (also at higher temperatures) which was to be expected from the results of Table 2, but furthermore these results exemplify, that using the concentrate mixture itself (with a combination of detergent and carrier oil) does not lead to additional unexpected effects for the stability (even at higher temperatures). The anthraquinone markers remain stable.

Based on the examples it is therefore clear for a person skilled in the art that anthraquinone markers are unexpectedly more stable against components of the concentrates (detergents, carrier oil) as well as against the concentrate itself than other markers.

As to the aspect of "commensurate in scope" with the scope of the claims. It is noted that the range of oil defined in the claims is 1 to 50% by weight and the range of additive c) (e.g., detergent) is 25 to 90% by weight.

In short, the data presented in the specification test the stability of the dyes at the extremes of the ranges. Specifically, as discussed and apparent from the description of the examples the dyes were subjected to conditions of the oil or the detergent and values in the upper amounts of the claimed ranges, i.e., the most extreme or worst case for stability of the dyes. The data show that the dyes were stable at these upper end limits of the claimed range. Therefore, as the concentration of the carrier oil and/or additives decrease within the claimed ranges, the conditions for dye stability would be less extreme and as a result the dyes would still be stable. Because of this and the reasonable extrapolation of the data from the upper

ends of the claimed ranges to the lower end of the claimed ranges, in terms of stability, one of ordinary skill in the art demonstrates a trend such that the evidence is commensurate in scope with claimed subject matter that is alleged to be *prima facie* obvious. See *In re Kollman* 595 F.2d 48, 201 USPQ 193 (Fed. Cir. 1979).

Accordingly, the data presented in the specification is commensurate in scope with the claimed invention presented in this paper.

As to the merits of the rejection, Applicants reiterate their earlier points of distinction on the record. The Examiner finds that as Pauls suggests that the dye should be stable in the presence of additives and as Oppenlander (without such dyes) teaches concentrates "it would have been obvious . . . to have used the carrier oil of Oppenlander for preparing additive concentrates according to the invention of Pauls, as Oppenlander teaches the carrier oils are suitable for use in fuel and lubricant compositions."

These arguments, however, are erroneous and not based on the objective evidence in the references. Rather they are misinterpretations of the citations that are misapplied to reconstruct the claimed invention in hindsight. The Examiner alleges that "Pauls teaches the dyes are stable when combined with additives such as deposit control agents (dispersants) and detergents according to the claimed limitations (column 4, lines 52-54). This conclusion, however, ignores the fact that Pauls discussion noted in the rejection is nothing more than speculation and prophetic, not backed by any evidence that this is, in fact, true. Furthermore, the additive concentrates described in Pauls are in relation to the dyes but as Applicants have already explained, Pauls relates to diluted forms and the stability of the dyes in those diluted compositions. Oppenlander is silent with respect to the dyes in the claims nor does Oppenlander provide any reasonable expectation that the dyes, taught in Pauls, would be stable in more concentrated form, as in Oppenlander.

In more detail, Pauls et al. describe a method for invisibly tagging liquid petroleum products such as fuels, heating oils, lubricating oils etc. with dyes. The dyes are used at very low concentrations to prevent visual recognition of the marking. Concentrated solutions of the markers in solvents are mentioned in Pauls et al. (col. 7, lines 18-30), however, these solutions do not contain further additives and no addition of further additives is suggested. Pauls et al. only describe adding a concentrated solution of the marker to the petroleum product which contains additives in a diluted regime, thereby also diluting the dye to the desired concentration. Therefore, it is not possible that the stability problems, which are solved by the present invention, relating to concentrates comprising markers and additives will arise in the context of Pauls et al. Markers and additives simply do not interact in a concentrated solution in Pauls et al.

Stability of the markers against additives, such as deposit control agents, antioxidants, or detergents, present in the tagged petroleum products is discussed in Pauls et al. (c.f. "wish-list", col. 4, lines 52-56). However, the stability issues mentioned in Pauls et al. are with respect to the marked product, which corresponds to the diluted state of the marker at very low concentration. The question of stability of the marker at high concentrations in the package is, as already mentioned above, not addressed in Pauls et al. Therefore, the stability of anthraquinone markers in concentrated solutions is surprising to a person skilled in the art (see, the experiments on storage stability in the application starting at page 26).

Oppenländer et al. merely describe the composition of concentrated additive packages for fuel and lubricants. Markers are not mentioned by Oppenländer et al. and there is no information to be found to add markers to the concentrate.

That the cited references teaches very different compositions, with only general disclosure as to what could be included in such very different compositions, there is simply nothing in the art that suggests to the problem underlying the present invention, stabilization

of anthraquinone markers in concentrated solutions (see amended claim 1 and the defined concentrations provided therein).

Even if a person skilled in the art, using Pauls et al. in view of Oppenländer et al., would have considered to add markers directly to the concentrated package the subject matter of Claim 1, the unexpected effects shown by the examples of the present application rebut any contention of *prima facie* obviousness as has already been discussed above and during the aforementioned interview on August 31, 2010.

In consideration of the above-discussion in connection with the amended claims submitted in this paper, withdrawal of the rejections is requested.

A Notice of Allowance is also requested.

Respectfully submitted,

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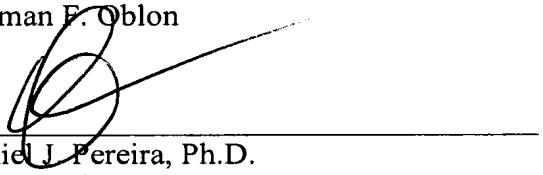

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